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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/548,087	06/20/2006	Ivan Ivanov	006681.00003	2100
22907 7590 07/29/2008 BANNER & WITCOFF, LTD. 1100 13th STREET, N.W. SUITE 1200 WASHINGTON, DC 20005-4051				
EXAMINER				
NGUYEN, NGA X				
ART UNIT		PAPER NUMBER		
3662				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/548,087

**Applicant(s)**

IVANOV ET AL.

**Examiner**

NGA X. NGUYEN

**Art Unit**

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 May 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (6191734) in view of Kuroda (4586050).

With regard to claim 1, Park discloses:

- Sensors for angular velocity to sense the rotation of the antenna around its axes (see column 7, lines 49-50).
- A control block to calculate necessary correction of the direction of antenna beam (see column 10-11, lines 18-34), connected to outputs of the sensors for angular velocity and the inclination sensors, to input of a driving block, and a block for electronic beam control (see column 7, lines 48-62)
- At least one motor for changing the orientation of the antenna which connected to the output of the driving block and to an antenna panel (see column 7-8, lines 63-3)
- And the block for electronic beam control being connected to the antenna panel (see column 7-8, lines 48-15).

Kuroda discloses:

- Inclination sensors for measuring the inclination of the antenna toward a vertical axis (see column 2-3, lines 61-30)

- A control block to calculate necessary correction of the direction of antenna beam (see column 3, lines 1-10).

It would have been obvious to modify Park by incorporating the teaching of Kuroda's inclination sensor for measuring the inclination of the antenna toward a vertical axis so as to provide the system to track signals consistency.

2. Claims 2-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park and Kuroda as applied to claim 1 above, and further in view of Walrath (5463402).

With regard to claim 2, Walrath teaches the angular velocity sensors comprising three angular velocity sensors collinear to the axes of Cartesian coordinate system and fixed with the antenna panel (see column 4, lines 44-54).

It would have been obvious to modify Park and Kuroda by incorporating the teaching of Walrath's three angular sensors so as to provide the system to track signals more consistency.

With regard to claim 3, Walrath teaches that a forward coordinate transformation is performed with information from the three angular velocity sensors to obtain necessary correction of azimuth and elevation of the antenna panel and reverse coordinate transformation for applying correction of offsets of the three angular velocity sensors (see column 7, lines 12-37).

With regard to claim 4, Walrath teaches axes of two of the angular velocity sensors lying in a plane, wherein the beam of the antenna panel is tilted and the axis of the third angular velocity sensor is orthogonal to the plane (see column 4, lines 43-54).

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With regard to claim 5, Park teaches the antenna panel performing mechanical scanning by one axis, while the antenna beam is positioned by electronic control at a fixed position at the other axis, and the signal strength from two or more positions in a close proximity to direction towards the satellite is used for calculation of correction of offsets of the angular velocity sensors and for fine adjustment in orientation of the antenna beam by the block for electronic beam control (see column 9, lines 20-40).

With regard to claim 6, Park teaches the block for electronic beam control holding the beam closest to current satellite direction from maximum allowable time and holding the beam in neighboring position for minimal time to provide minimum decreasing of average strength of received signal (see column 10, lines 20-33)

With regard to claim 7, is a design choice of applying an additional correction of offsets of two angular velocity sensors wherein the axes lie in a plane, coplanar or near coplanar to a horizontal plane in an expected way of implementing of Park with no new or unexpected result.

With regard to claim 8, Walrath teaches the output values of the two angular velocity sensors having the axes lie in a plane, coplanar or near coplanar to horizontal plane, are integrated for a certain time interval (see column 6-7, lines 59-4).

With regard to claim 9, Kuroda teaches the output values of the two angular velocity sensors having the axes lie in a plane, coplanar or near coplanar to horizontal plane, are converted into angular velocities (see column 3-4, lines 49-40).

***Response to Amendment***

3. Applicant's arguments with respect to amended claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGA X. NGUYEN whose telephone number is (571)272-5217. The examiner can normally be reached on 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TARCZA H. THOMAS can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NGA X NGUYEN  
Examiner  
Art Unit 3662

NXN

/Thomas H. Tarcza/

Supervisory Patent Examiner, Art Unit 3662